

Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1 - 38 (Cancelled)

Claim 39 (New): A process for reconstructing an animal embryo of a non-human mammalian species comprising transferring into a recipient cell a diploid nucleus from a donor cell or the donor cell including said nucleus, said donor cell being a G1 or G0 cell from a non-human mammalian species and said recipient cell being an enucleated metaphase II oocyte of a non-human mammalian species, wherein chromatin within said nucleus is subjected to denaturing conditions before the nucleus is transferred into the recipient cell, the recipient cell being further activated and cultured *in vitro* or *in vivo*.

Claim 40 (New): The process according to claim 39 wherein the denaturing conditions are selected from the group consisting of heat-treatment, pH change, change in ionic strength, chromatin denaturing agent, and combinations thereof.

Claim 41 (New): The process according to claim 40 wherein said heat-treating is carried out at the melting temperature of transcriptional regulatory proteins in the nucleus.

Claim 42 (New): The process according to claim 41, wherein said heat-treating is carried out at a temperature range of from 45°C to 95°C.

Claim 43 (New): The process according to claim 42 wherein said heat-treating is carried out at 55°C.

Claim 44 (New): The process according to claim 42, wherein said heat-treating is carried out at 75°C.

Claim 45 (New): The process according to claim 39 wherein the chromatin is organized in chromosomes.

Claim 46 (New): The process according to claim 39, wherein said donor cell is collected from a single individual.

Claim 47 (New): The process according to claim 39, wherein said donor cell is selected from the group consisting of embryonic cells, fetal cells, and somatic cells.

Claim 48 (New): The process according to claim 39, wherein said donor cell is a cultured cell.

Claim 49 (New): The process according to claim 39, wherein said donor cell is a granulose cell.

Claim 50 (New): The process according to claim 39, wherein said donor cell is a non-living cell.

Claim 51 (New): The process according to claim 39, wherein said chromatin is subjected to at least one genetic modification.

Claim 52 (New): The process according to claim 51 wherein said genetic modification includes the insertion of at least one heterologous DNA.

Claim 53 (New): The process according to claim 51 wherein said genetic modification includes the deletion of at least one homologous gene.

Claim 54 (New): The process according to claim 51 wherein said genetic modification includes the modification of at least one homologous group.

Claim 55 (New): The process according to claim 51 wherein said genetic modification includes the duplication of at least one homologous gene.

Claim 56 (New): The process according to claim 39, wherein said denaturing treatment is carried out on the nucleo-protein assembly.

Claim 57 (New): The process according to claim 39, wherein said denaturing treatment is carried out on the nucleus, said nucleus being inside the donor cells.

Claim 58 (New): The process according to claim 39 wherein said denaturing treatment is carried out on the nucleus, said nucleus being outside the donor cell.

Claim 59 (New): The process according to claim 39, wherein said oocyte is matured *in vitro*.

Claim 60 (New): The process according to claim 39, wherein the nuclear transfer is carried out by injecting the donor nucleus into the recipient cell.

Claim 61 (New): The process according to claim 39, wherein the animal embryo belongs to a species selected from the group consisting of mouse, rat, rabbit, guinea pig, and fur species.

Claim 62 (New): The process according to claim 39, wherein said non-human mammalian species is an ungulate animal.

Claim 63 (New): The process according to claim 62 wherein said ungulate species is selected from the group consisting of cattle, sheep, goat, pig, water buffalo, and horse.

Claim 64 (New): A process for generating an animal comprising:

- a. culturing an animal embryo reconstructed according to claim 39 to obtain blastocysts;
- b. transferring the blastocysts into a suitable implant animal;

- c. causing said animal embryo to develop to term; and
- d. further breeding the resulting animal.

Claim 65 (New): The process according to claim 64, wherein said embryo is sub-cloned for obtaining more than one animal which develops to term.

Claim 66 (New): The process according to claim 64, wherein the embryo of step a is a genetically modified embryo.

Claim 67 (New): The process according to claim 66, wherein said embryo is genetically modified prior to development to term.

Claim 68 (New): The process according to claim 64, wherein step a is carried out *in vivo*.